

**CLAIMS**

1. In a milking parlor (10) comprising a row of stalls (14) accessible in serial order to a plurality of milk producing animals (12) from a front end thereof (14a), and adapted for milking said milk producing animals; and an animal identification station (20) arranged in the front end of said row of stalls for identifying said milk producing animals when passing serially there through to enter said row of stalls (14), a method of automatically verifying identities of said milk producing animals (12) in said row of stalls (14), characterized by the steps of:

- identifying the milk producing animal in the stall located at the far end (14b) of said row of stalls by means of a first identification member (24) provided in that stall;

- identifying the milk producing animal in the stall located at said front end (14a) of said row of stalls (14) by means of a second identification member (26) provided in that stall;

- identifying the milk producing animal in a stall located between said far and front ends of said row of stalls by means of a third identification member (28) provided in that stall;

- comparing the identifications of the first, second, and third identification members (24, 26, 28), respectively, with the first, last and n'th identifications, respectively, from said animal identification station (20), where said stall located between said far and front ends of said row of stalls is the n'th stall as counted from said far end of said row of stalls; and

- depending on said comparison verifying the identities of at least some of said milk producing animals in said row of stalls.

2. The method of claim 1 wherein

- the identities of the milk producing animals in the stalls located between said far end and said stall located between said far and front ends of said row of stalls are verified provided that the identifications of the first and third identification members (24, 28), respectively, match with the first and n'th identifications, respectively, from said animal identification station; and

- the identities of the milk producing animals in the stalls located between said stall located between said far and front ends and said front end of said row of stalls are verified provided that the identifications of the second and third (26, 28) identification members, respectively, match with the last and n'th identifications, respectively, from said animal identification station.

3. The method of claim 1 wherein the steps of

- comparing the identifications of the second and third identification members (26, 28), respectively, with the last and (n-1)'th identifications, respectively, from said animal identification station; and

- if the identifications of the second and third identification members, respectively, match with the last and (n-1)'th identifications, respectively, from said animal identification station

(i) correcting the identities of the milk producing animals in the stalls located between said stall located between said far and front ends and said front end of said row of stalls by using the (n-1)'th to last identifications from said animal identification station as the identities of the milk producing animals in the stalls located from said stall located between said far and front ends to the

stall located at said front end of said row of stalls; and

(ii) verifying the corrected identities only

are performed provided that the identification of the first  
5 identification member (24) matches with the first identification  
from said animal identification station and that the  
identification of the third identification member (28) differs  
from the n'th identification from said animal identification  
station.

10 4. The method of claim 1 wherein the steps of

- comparing the identifications of the first, second, and third  
identification members (24, 26, 28), respectively, with the  
second, last and (n-1)'th identifications, respectively, from  
said animal identification station; and

15 - if the identifications of the second and third identification  
members (26, 28), respectively, match with the last and (n-1)'th  
identifications, respectively, from said animal identification  
station

(iii) correcting the identities of the milk producing  
20 animals in said row of stalls by using the first to  
last identifications from said animal identification  
station as the identities of the milk producing  
animals in the second to last stalls of said row of  
stalls, as counted from the far end of said row of  
25 stalls, and by using the identification of the first  
identification member (24) as the identity of the  
milk producing animal in the stall at the far end  
(14a) of said row of stalls (14); and

(iv) verifying the corrected identities

are performed provided that the identifications of the first, second, and third identification members (24, 26, 28), respectively, differ from the first, last and n'th identifications, respectively, from said animal identification station.

5. The method as claimed in any of claims 1-4 wherein the stall located between said far and front ends (14a, 14b) of said row of stalls (14) is a stall located essentially half-way between said far and front ends of said row of stalls.

10 6. The method as claimed in claim 1 comprising the steps of:

- identifying the milk producing animal in a stall located between said far end (14a) and said station located between said far and front ends (14a, 14b) of said row of stalls (14) by means of a fourth identification member (44) provided in that stall;

- comparing the identification of the fourth identification member (44) with the i'th identification from said animal identification station, where said stall located between said far end and said stall located between said far and front ends of said row of stalls is the i'th stall as counted from said far end of said row of stalls; and

- depending on said comparison of the identification of the fourth identification member with the i'th identification from said animal identification station verifying the identities of at least some of said milk producing animals in said row of stalls.

7. The method as claimed in claim 6 comprising the steps of:

- identifying the milk producing animal in a stall located between said station located between said far and front ends (14a, 14b) and said front end (14a) of said row of stalls (14)

by means of a fifth identification member (46) provided in that stall;

5       - comparing the identification of the fifth identification member (46) with the q'th identification from said animal identification station (20), where said stall located between said stall located between said far and front ends and said front end of said row of stalls is the q'th stall as counted from said far end of said row of stalls; and

10       - depending on said comparison of the identification of the fifth identification member with the q'th identification from said animal identification station verifying the identities of at least some of said milk producing animals in said row of stalls.

15       8. The method as claimed in claim 1 wherein said row of stalls (14) includes at least twelve stalls and wherein said method further comprises the steps of:

20       - identifying the milk producing animals at least in every fourth stall located between said far and front ends of said row of stalls by means of a respective identification member (24, 26, 28, 44, 46) provided in said at least every fourth stall;

25       - comparing the identifications of said respective identification member (24, 26, 28, 44, 46) provided in said at least every fourth stall, with respective corresponding identification from said animal identification station (20); and

30       - depending on said comparison of the identifications of said respective identification member (24, 26, 28, 44, 46) provided in said at least every fourth stall, with respective corresponding identification from said animal identification station (20), verifying the identities of at least some of said milk producing animals in said row of stalls.

9. The method as claimed in any of claims 1-8 wherein

- measurements of the milk produced by said milk producing animals in said row of stalls are performed; and

- of said measurements only measurements of the milk produced by milk producing animals with verified identities are utilized in the management of said milk producing animals.

10. The method as claimed in claims 9 wherein said measurements are weights, volumes or flows of the milk produced by said milk producing animals.

11. The method as claimed in any of claims 1-10 wherein said milking parlor (10) is a milking parlor in any of a herringbone, a rotary, or a parallel stall configuration.

12. The method as claimed in any of claims 1-11 wherein said method is performed by means of a computer (36).

13. In a milking parlor (10) comprising a row of stalls (14) accessible in serial order to a plurality of milk producing animals (12) from a front end (14a) thereof, and adapted for milking said milk producing animals; and an animal identification station (20) arranged in the front end of said row of stalls for identifying said milk producing animals (20) when passing serially there through to enter said row of stalls (14), an arrangement of automatically verifying identities of said milk producing animals in said row of stalls, characterized in:

- a first identification member (24) for identifying the milk producing animal in the stall located at the far end (14b) of said row of stalls (14);

- a second identification member (26) for identifying the milk producing animal in the stall located at said front end (14a) of said row of stalls (14);

- a third identification member (28) for identifying the milk producing animal in a stall located between said far and front ends (14a, 14b) of said row of stalls (14);

5 - a comparator (38) for comparing the identifications of the first, second, and third identification members (24, 26, 28), respectively, with the first, last and n'th identifications, respectively, from said animal identification station (20), where said stall located between said far and front ends of said row of stalls is the n'th stall as counted from said far end of  
10 said row of stalls; and

- a verifier (40) for, depending on said comparison, verifying the identities of at least some of said milk producing animals in said row of stalls.

14. The arrangement of claim 13 wherein said verifier (40) is  
15 adapted

- to verify the identities of the milk producing animals in the stalls located between said far end (14b) and said stall located between said far and front ends (14a, 14b) of said row of stalls (14) if the identifications of the first and third  
20 identification members (24, 28), respectively, match with the first and n'th identifications, respectively, from said animal identification station (20); and

- to verify the identities of the milk producing animals in the stalls located between said stall located between said far and  
25 front ends (14a, 14b) and said front end (14a) of said row of stalls (14) if the identifications of the second and third identification members (26, 28), respectively, match with the last and n'th identifications, respectively, from said animal identification station (20).

30 15. The arrangement of claim 13 further comprising means (42) for correcting identities, wherein

- said comparator (38) is adapted to compare the identifications of the second and third identification members (26, 28), respectively, with the last and (n-1)'th identifications, respectively, from said animal identification station (20) if  
5 the identification of the third identification member (28) differs from the n'th identification from said animal identification station (20);

- said means (42) for correcting identities is adapted to correct the identities of the milk producing animals in the  
10 stalls located between said stall located between said far and front ends (14a, 14b) and said front end (14a) of said row of stalls (14) by using the (n-1)'th to last identifications from said animal identification station (20) as the identities of the milk producing animals in the stalls located from said  
15 stall located between said far and front ends to the stall located at said front end of said row of stalls if the identifications of the second and third identification members (26, 28), respectively, match with the last and (n-1)'th identifications, respectively, from said animal identification  
20 station (20); and

- said verifier (40) is adapted to verify the corrected identities only.

16. The arrangement as claimed in any of claims 13-15 wherein said third identification member (28) is provided in a stall  
25 located essentially half-way between said far and front ends of said row of stalls.

17. The arrangement as claimed in claim 13 wherein

- said arrangement comprises a plurality of identification members (24, 26, 28, 44, 46), each provided in a respective  
30 stall located between said far and front ends (14a, 14b) of said row of stalls (14) for identifying the milk producing animal therein;



- said comparator (38) is adapted to compare the identifications of each of said plurality of identification members (24, 26, 28, 44, 46) with corresponding identifications from said animal identification station (20); and

- 5    - said verifier (40) is adapted to, depending on said comparison, verify the identities of at least some of said milk producing animals in said row of stalls.

18. The arrangement as claimed in claim 13 wherein said milking parlor (10) is a milking parlor in any of a herringbone, a  
10   rotary, or a parallel stall configuration.

19. The arrangement in claim 18 wherein

- said milking parlor is a rotary milking parlor comprising a rotatable circular row of stalls; and

15   - said first, second, and third identification members (24, 26, 28) are comprised of a single identification device (24, 26, 28), preferably arranged outside the rotatable circular row of stalls, and adapted to identify the milk producing animals in said stalls located at said far end (14b), at said front end (14a), and between said far and front ends (14a, 14b) of said  
20   row of stalls (14) as they pass by said single identification device.

20. The arrangement as claimed in any of claims 13-16 wherein said row of stalls (14) includes N stalls, where N is at least six, and said arrangement further comprises between three and  
25   N/2 identification members (24, 26, 28; 24, 26, 28, 44, 46) essentially evenly distributed among the stalls in said row (14) of stalls, wherein

30   - said comparator (38) is adapted to compare the identifications of the identification members (24, 26, 28; 24, 26, 28, 44, 46) with corresponding identifications from said animal identification station (20); and

- said verifier (40) is adapted to verify the identities of milk producing animals in stalls located between two adjacent identification members (44, 28) provided that the identifications of said two adjacent identification members  
5 (44, 28) match with corresponding identifications from said animal identification station (20).